

Core Actions and Associated Cost Estimates - DRAFT

Note: The activities listed here represent core actions that would be implemented in all alternatives. The costs represent preliminary estimates and are still in process of refinement. With the exception of those actions designated with an "", these costs represent the total cost to implement the action regardless of funding source. Those actions designated by an "*" have been defined as the state share of CVPIA provisions. Therefore, these costs include only the matching amount and not the total cost. The next step in refining these cost will be to segregate costs funded by existing programs from costs to be funded by the CALFED Program. In addition, the core action list is also continually being refined and modifications to the action list may occur.*

Physical and Structural Features

Habitat Restoration

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Protect and enhance all existing shallow habitat from erosion Protect 5,000 acres 	26,000	1,600	
<ul style="list-style-type: none"> Protect and enhance existing riverine habitat on channel islands Protect 800 acres 	8,000	160	
<ul style="list-style-type: none"> Improve riverine elements at channel edges by modifying levee protection practices For 50% of levees (100 miles) 			5,500
<ul style="list-style-type: none"> Improve degraded riparian habitats Improve 300 acres 	1,800	90	
<ul style="list-style-type: none"> Improve riparian habitat by modifying levee maintenance practices Modify practices on 20% of Delta levees 			100
<ul style="list-style-type: none"> Protect and enhance all existing riparian habitat Protect 2,000 acres 			600
<ul style="list-style-type: none"> Protect and enhance existing wetlands - annual program Protect 200 acres 			20
<ul style="list-style-type: none"> Expand wetland acquisition programs Acquire 6,400 acres 	12,800	250	

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Protect and enhance existing upland habitat Protect 1,600 acres 			160
<ul style="list-style-type: none"> Preserve agricultural land uses providing habitat in the Delta Preserve 50,000 acres 			5,300
<ul style="list-style-type: none"> Maintain adequate spawning substrates For 10 spawning sites 	1,250*	25	
<ul style="list-style-type: none"> Revegetate degraded upstream riparian habitats Revegetate 3,000 acres 	56,000	560	
Total Category Cost (\$1,000)	105,850	2,685	11,980

Fish Protection and Transport

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Improve flows and temperatures in upstream habitats Temperature devices at Shasta, Trinity, and Folsom dams 	18,500*	350	
<ul style="list-style-type: none"> Modify fish passage at upstream dams or through other barriers Modify 2 barriers 	16,300*	325	
<ul style="list-style-type: none"> Install screens on unscreened in-delta diversions diversions totaling 800 cfs 	2,000*		
<ul style="list-style-type: none"> Install or upgrade screens on upstream diversions diversions totaling 4,400 cfs 	5,500*		
Total Category Cost (\$1,000)	42,300	675	

Operational and Management Features

Water Diversion Management

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> • Use real-time monitoring and adaptive management • Development and continuation of an annual program 			2,500
<ul style="list-style-type: none"> • Manage water resources data and information for the Bay-Delta System • Development and continuation of an annual program 			50
Total Category Cost (\$1,000)			2,550

Fisheries Management

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> • Modify hatchery operations to reduce effects on wild fish populations • Development and continuation of an annual program to provide funding to existing hatcheries 			2,000
<ul style="list-style-type: none"> • Improve regulation of commercial and sport harvest • Improve data collection and analysis needed to regulate harvest 			500
Total Category Cost (\$1,000)			2,500

Water Quality Management

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Retire lands with drainage disposal problems <ul style="list-style-type: none"> Establish incentives for retirement of lands with drainage problems through cooperative partnerships with willing landowners 	17,600		
<ul style="list-style-type: none"> Manage riparian zones to protect water quality <ul style="list-style-type: none"> Encourage management of riparian zones to protect water quality 			1,000
<ul style="list-style-type: none"> Manage land uses to protect water quality <ul style="list-style-type: none"> Encourage management of land uses to protect water quality 			1,000
<ul style="list-style-type: none"> Investigate techniques for beneficial reuse of dredged materials <ul style="list-style-type: none"> Fund a pilot program 			50
Total Category Cost (\$1,000)	17,600		2,050

Management of System Vulnerability

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Monitor, evaluate, maintain, and stabilize existing levees 			15,000
<ul style="list-style-type: none"> Modify in-delta agricultural practices to reduce subsidence <ul style="list-style-type: none"> Modify practices on 1,400 acres of peat soils 			140
Total Category Cost (\$1,000)			15,140

Institutional and Policy Features

Habitat Programs

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Improve regulations regarding ballast-water releases <ul style="list-style-type: none"> Promote and coordinate application of existing federal law 			500
<ul style="list-style-type: none"> Improve border inspection practices to intercept aquatic pest introductions <ul style="list-style-type: none"> Increase staffing to increase intensity of application of current regulatory practices 			1,000
<ul style="list-style-type: none"> Inspect for invasions of nuisance species <ul style="list-style-type: none"> Establish a rapid response program for introduced species 			250
<ul style="list-style-type: none"> Modify gravel mining practices <ul style="list-style-type: none"> Encourage gravel mining practices that protect fish habitat (cooperative agreements with landowners at 10 sites) 	200	4	
Total Category Cost (\$1,000)	200	4	1,750

Water Supply Management

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Establish incentives for use of agricultural water conservation practices. <ul style="list-style-type: none"> State and federal program to promote voluntary implementation of EWMPs 			1,000
<ul style="list-style-type: none"> Increase incentives for use of municipal and industrial water conservation practices <ul style="list-style-type: none"> Provide low-interest loans to urban water suppliers that cannot afford to implement BMPs 			600
<ul style="list-style-type: none"> Educate users about conservation and reclamation technologies <ul style="list-style-type: none"> Educate small agencies about conservation and reclamation feasibility (provide technical and planning support) 			750

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Establish incentives for long-term conjunctive use <ul style="list-style-type: none"> To produce a 10% reduction in water supply deficiencies for target districts 			2,500
<ul style="list-style-type: none"> Ease institutional barriers to encourage conjunctive use <ul style="list-style-type: none"> Fund effort to change laws that create greatest obstacles to increased conjunctive use 	5,000		
<ul style="list-style-type: none"> Improve operational procedures to facilitate water transfers (five year program) <ul style="list-style-type: none"> Coordinate CVP and SWP to provide more efficient conveyance of water transfers 			1,150
<ul style="list-style-type: none"> Establish a water transfer brokering mechanism or institution <ul style="list-style-type: none"> Develop and operate most efficient water transfer brokerage mechanism 	1,500		250
<ul style="list-style-type: none"> Coordinate statutory and regulatory water transfer responsibilities (five year program) <ul style="list-style-type: none"> review existing institutions and statues and coordinate agencies 			200
<ul style="list-style-type: none"> Improve planning and coordination procedures for water transfers <ul style="list-style-type: none"> Promote and coordinate improvements to water transfer permitting procedures 	1,000		
Total Category Cost (\$1,000)	7,500		6,450

Water Quality Management

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Encourage improved livestock management in riparian habitats <ul style="list-style-type: none"> Extend and expand existing programs to fence 100 additional miles of riparian areas 	2,500	50	
<ul style="list-style-type: none"> Implement source control regulations for pollutants <ul style="list-style-type: none"> Provide incentives for pollution source control on agricultural lands through cooperative partnerships with willing landowners 			1,000
Total Category Cost (\$1,000)	2,500	50	1,000

Management of System Vulnerability

Activities	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<ul style="list-style-type: none"> Establish an emergency levee management plan <ul style="list-style-type: none"> For the highest priority Delta levees 			1,000
<ul style="list-style-type: none"> Provide funding for levee maintenance, stabilization, and improvement <ul style="list-style-type: none"> To maintain current level of flood protection on highest priority islands 			3,000
Total Category Cost (\$1,000)			4,000

Total Cost Estimate	Estimated Activity Cost (\$1,000)		
	Capital	O&M	Annual
<i>Physical and Structural Features</i>			
Habitat Restoration	105,850	2,685	11,980
Fish Protection and Transport	42,300	675	
<i>Operational and Management Features</i>			
Water Diversion Management			2,550
Fisheries Management			2,500
Water Quality Management	17,600		2,050
Management of System Vulnerability			15,140
<i>Institutional and Policy Features</i>			
Habitat Programs	200	4	1,750
Water Supply Management	7,500		6,450
Water Quality Management	2,500	50	1,000
Management of System Vulnerability			4,000
Total Essential Element Cost (\$1,000)	175,950	3,664	46,970